

Bachelor of Arts in Biochemistry (120 units)

This new state-supported program was recommended by the Academic Senate on February 15, 2018 and concurred by the President on February 27, 2018.

All students must achieve at least a 2.0 grade-point average in (1) the entire college record, (2) all units attempted at CSULB, and (3) all courses in the major. In addition, students must achieve a grade of “C” or better in all courses in the major.

Lower Division

Take all the following courses with a grade of C or better:

BIOL 211 Introduction to Evolution and Diversity (4)

Prerequisite/Corequisite: CHEM 111A with a grade of “C” or better.

BIOL 212 Introduction to Cell and Molecular Biology (4)

Prerequisites: BIOL 211, CHEM 111A with grades of “C” or better.

Prerequisite/Corequisite: CHEM 111B

Take either Option 1 or Option 2:

Option 1 with a grade of C or better

CHEM 111A General Chemistry (5)

Prerequisite(s)/Corequisite(s): MATH 112A with a grade of “C” or better, or MATH 112B or higher (may be taken concurrently).

Prerequisite(s)/Corequisite(s): Appropriate score on the chemistry placement test or other measures, or department consent. Students in need of additional support will be required to enroll concurrently in CHEM 95.

CHEM 111B General Chemistry (5)

Prerequisites: CHEM 111A and MATH 112B or higher both with a grade of “C” or better.

Option 2

CHEM 112A Advanced General Chemistry (5)

C or better required

Prerequisite: Department consent.

CHEM 112B Advanced General Chemistry (5)

Prerequisite: CHEM 112A with a grade of “C” or better.

Take either Option 1 or Option 2:

Option 1

MATH 119A Survey of Calculus 1 (3)

C or better required

Prerequisite: A grade of “C” or better in MATH 112B or MATH 113, or appropriate CSULB Algebra and Calculus Placement.

MATH 119B Survey of Calculus 2 (3)

Prerequisite: A grade of “C” or better in MATH 119A or MATH 122.

Option 2 with a grade C or better

MATH 122 Calculus 1 (4)

Prerequisite: A grade of “C” or better in MATH 111 and either MATH 112B or MATH 113, or appropriate CSULB Algebra and Calculus Placement.

MATH 123 Calculus 2 (4)

Prerequisite: A grade of “C” or better in MATH 122.

Take either Option 1 or Option 2:

Option 1

PHYS 100A General Physics (4)

Prerequisite: MATH 109 or MATH 111 or MATH 112A or MATH 113 or MATH 119A or MATH 122;

PHYS 100B General Physics (4)

C or better required

Prerequisite: MATH 109 or MATH 111 or MATH 112A or MATH 113 or MATH 119A or MATH 122. PHYS 100A is a prerequisite for PHYS 100B.

Option 2

PHYS 151 Mechanics and Heat (4)

Prerequisite/Corequisite: MATH 122 or MATH 123 or MATH 224.

PHYS 152 Electricity and Magnetism (4)

C or better required

Prerequisite: PHYS 151

Prerequisite/Corequisite: MATH 123.

Take the following courses with a grade C or better:

CHEM 220A Organic Chemistry 1 (3)

Prerequisites: CHEM 111B with a grade of “C” or better.

Corequisites: CHEM 224A is required for students repeating course. CHEM 223A must be taken concurrently if required by a degree plan.

CHEM 220B Organic Chemistry 2 (3)

Prerequisite: CHEM 220A with a grade of “C” or better.

Corequisite(s): CHEM 224B is required for students repeating course. CHEM 223B or CHEM 320L must be taken concurrently if required by a degree plan except for students who previously earned a “C” or better in CHEM 223B or CHEM 320L.

Upper Division:

Take all of the following:

BIOL 340 Molecular Cell Biology (3)

Prerequisites: BIOL 211, BIOL 212 all with a grade of “C” or better.

CHEM 320L Organic Chemistry Laboratory (2)

C or better required

Prerequisite: CHEM 220A

Corequisite: CHEM 220B, except for students who have previously earned a grade “C” or better in CHEM 220B.

Take either:

CHEM 361 Chemical Communications (3)

C or better required

Prerequisites: GE Foundation requirement. Students must have scored 11 or higher on the GWAR Placement Examination or completed the necessary portfolio course that is a prerequisite for a GWAR Writing Intensive Capstone.

Prerequisite/Corequisite: CHEM 220A

or

RSCH 361 Scientific Research Communication (3 units)

Prerequisite: G.E. foundation courses; score of 11 or higher on the GWAR Placement Examination or successfully completed the necessary portfolio course that is a prerequisite for a GWAR Writing Intensive Capstone.

Take the following courses:

CHEM 379 Physical Chemistry for the Biosciences (4)

Prerequisites: CHEM 111B OR 112B, MATH 119B or 123, and PHYS 100B or 152, all with a grade of “C” or better.

CHEM 441A Biological Chemistry (3)

C or better required

Prerequisites: CHEM 220B and either CHEM 320L or CHEM 223B all with a grade of "C" or better; a biology or microbiology course is recommended.

CHEM 441B Biological Chemistry (3)

Prerequisite: CHEM 441A with a grade of "C" or better.

CHEM 442 Methods in Biochemistry (2)

Prerequisites: CHEM 361 and CHEM 441A both with grades of C or better.

CHEM 461 Chemistry Capstone (1)

Prerequisite/Corequisite: Department consent.

Take at least 3 units of upper division electives chosen from:

BIOL 342, BIOL 342L, BIOL 370, BIOL 416, BIOL 430, BIOL 431, BIOL 432, BIOL 433, BIOL 443, BIOL 445, BIOL 473; CHEM 331, CHEM 332, CHEM 420, CHEM 480, CHEM 496, CHEM 498, CHEM 498H, CHEM 499; RSCH 496A

EFFECTIVE: Fall 2019

Campus Code: CHEMBA03U1

College: 65

Career: GD

CIP Code: 26.0202

CSU Code: 04141

Department Owner: Department of Chemistry and Biochemistry

Degree Program Delivery: Fully face-to-face

Major Pathway: (STEM or non-STEM): STEM Designated

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